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RCE 2800
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Joo Soo LIM et al.

Application No.: 09/840,082

Filed: April 24, 2001

For: LIQUID CRYSTAL DISPLAY DEVICE
AND FABRICATING METHOD
THEREOF

Confirmation No.: 2174

Group Art Unit: 2871 ✓

Examiner: Z. Q. Qi

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Sir:

REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.

1. Submission required under 37 C.F.R. § 1.114

☒ Previously submitted:

☒ Please enter/consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on August 21, 2003. (Any un-entered amendment(s) referred to above will be entered).

☐ Please consider the arguments in the Appeal Brief or Reply Brief previously filed on _____.

☐ Please enter/consider the Information Disclosure Statement filed on _____.

☐ Enclosed:

☐ Amendment/Reply

☐ Affidavit(s)/Declaration(s)

10/21/2003 HDEKLSI 00000030 500310 09840082

01 FC:1801 770.00 DA
02 FC:1252 420.00 DA

IN THE CLAIMS:

Please amend claims 1 and 11, as follows:

Please add claim 21, as follows:

Claim 1 (Currently Amended): A liquid crystal display device comprising:

a pixel electrode at a pixel area between a gate line and a data line;

a switching device at an intersection between the gate line and the data line, the switching device comprising a light-shielding member overlapping the switching device and extending from an end at the pixel electrode side of a metal thin film provided within the switching device into the pixel area, **the light shielding member covering and extending past all sides of the metal thin film** with a margin sufficient to block light incident on the metal thin film.

Claim 2 (Original): The liquid crystal display device of claim 1, wherein the light-shielding member is at a front substrate opposed to a rear substrate, the rear substrate including the switching device and the pixel electrode.

Claim 3 (Original): The liquid crystal display device of claim 2, wherein the light-shielding member is a black matrix.

Claim 4 (Original): The liquid crystal display device of claim 1, wherein the switching device is a thin film transistor at the intersection between the gate line and the data line for

driving the pixel electrode; and

wherein the metal thin film of the switching device is a drain electrode connected to the pixel electrode.

Claim 5 (Previously Presented): A liquid crystal display device comprising:

a pixel electrode at a pixel area between a gate line and a data line;

a charging device on the gate line, the charging device comprising:

a metal thin film;

a light-shielding member overlapping the charging device and extending from an end at the pixel electrode side of the metal thin film into the pixel area with a margin sufficient to block light incident on the metal thin film.

Claim 6 (Original): The liquid crystal display device of claim 5, wherein the light-shielding member is formed at a front substrate opposed to a rear substrate that includes the charging device and the pixel electrode.

Claim 7 (Original): The liquid crystal display device of claim 6, wherein the light-shielding member is a black matrix.

Claim 8 (Original): The liquid crystal display device of claim 5, wherein the charging device is a storage capacitor including:

an upper electrode formed with the gate line; and
a dielectric layer between the upper electrode and the gate line,
wherein the metal thin film serves as the upper electrode.

Claim 9 (Previously Presented): A liquid crystal display device comprising:
a pixel electrode at a pixel area between a gate line and a data line;
a thin film transistor at an intersection between the gate line and the data line and
including a first metal thin film;
a storage capacitor on the gate line and including a second metal thin film;
a black matrix at a boundary portion between pixel areas;
a first dummy black matrix connected to the black matrix and extending from an end at
the pixel electrode side of the first metal thin film into the pixel area with a margin sufficient to
block light incident on the first metal thin film; and
a second dummy black matrix connected to the black matrix and extending from an end
at the pixel electrode side of the second metal thin film into the pixel area with a margin
sufficient to block light incident on the second metal thin film.

Claim 10 (Original): The liquid crystal display device of claim 9,
wherein the first metal thin film is a drain electrode connected to the pixel electrode, and
wherein the second metal thin film is an upper electrode between the gate line and a
dielectric layer.

Claim 11 (Currently Amended): A method of fabricating a liquid crystal display device comprising the steps of:

forming a pixel electrode at a pixel area between a gate line and a data line;

forming a switching device including a metal thin film at an intersection between the gate line and the data line; and

forming a light-shielding member for blocking light incident on the metal thin film to overlap with the switching device, the light-shielding member extending from an end at the pixel electrode side of a metal thin film of the switching device into the pixel area, **the light shielding member covering and extending past all sides of the metal thin film** with a margin sufficient to block the light incident on the metal thin film.

Claim 12 (Original): The method of claim 11, wherein the switching device and the pixel electrode are formed on a rear substrate; and

wherein the light-shielding member is formed on a front substrate opposed to the rear substrate, with a liquid crystal layer therebetween.

Claim 13 (Original): The method of claim 12, wherein the light-shielding member is a black matrix.

Claim 14 (Original): The method of claim 12, wherein the switching device is a thin film

transistor at the intersection between the gate line and the data line for driving the pixel electrode; and

wherein the metal thin film of the switching device is a drain electrode connected to the pixel electrode.

Claim 15 (Previously Presented): A method of fabricating a liquid crystal display device comprising the steps of:

forming a pixel electrode at a pixel area between a gate line and a data line;

forming a charging device including a first metal thin film on the gate line; and

forming a light-shielding member for blocking light incident on the metal thin film to overlap the metal thin film, the light-shielding member extending from an end at the pixel electrode side of the first metal thin film into the pixel area with a margin sufficient to block the light incident on the metal thin film.

Claim 16 (Original): The method of claim 15, wherein the charging device and the pixel electrode are formed at a rear substrate; and

wherein the light-shielding member is formed at a front substrate opposed to the rear substrate with a liquid crystal layer therebetween.

Claim 17 (Original): The method of claim 16, wherein the light-shielding member is a black matrix.

Claim 18 (Original): The method of claim 15, wherein the first metal thin film is an upper electrode over the gate line and a dielectric layer.

Claim 19 (Previously Presented): A method of fabricating a liquid crystal display device comprising the steps of:

forming a pixel electrode at a pixel area between a gate line and a data line on a rear substrate:

forming a thin film transistor including a first metal thin film at an intersection between the gate line and the data line on the rear substrate:

forming a storage capacitor including a second metal thin film on the rear substrate and overlapping the gate line:

forming a black matrix on a front substrate opposed to the rear substrate at a boundary portion between pixel areas:

forming a first dummy black matrix extending from an end at the pixel electrode side of the first metal thin film into the pixel area on the front substrate with a margin sufficient to block light incident on the first metal thin film; and

forming a second dummy black matrix extending from an end at the pixel electrode side of the second metal thin film into the pixel area on the front substrate with a margin sufficient to block light incident on the second thin film.

Claim 20 (Original): The method of claim 19, wherein the metal thin film of the thin film transistor is a drain electrode connected to the pixel electrode; and

wherein the second metal thin film is an upper electrode between the gate line and a dielectric layer.

Claim 21 (New): The liquid crystal display device according to claim 1, wherein the light-shielding member is formed with an organic material containing a black pigment.